

ABSTRACT OF THE DISCLOSURE

An AC ground fault detector system for sensing an AC signal indicative of an unintended electrical path between a load driven by a power source and a reference potential comprises a first power conductor coupled to a first terminal of the power source and a second power conductor coupled to a second terminal of the power source. A switching mechanism coupled to the first and second power conductors is operative for alternately connecting a phase of the load with the first and second power conductors according to a predetermined switching rate, whereby, during normal operation, voltages developed at the first power conductor and second power conductor are substantially constant with respect to a reference potential. In the event of an occurrence of the unintended electrical path of at least one phase of the load with the reference potential, time varying voltages are developed at the first power conductor and second power conductor associated with the switching rate. A detector is coupled at an input port to the first power conductor for receiving the voltage or current signal on the first power conductor. The detector includes a processing circuit for processing the received signal and comparing with a threshold value, and an output port for generating an output signal based on said comparison; whereby the occurrence of the unintended electrical path between the load and reference potential causes a change in the voltage or current signal on the first power conductor of sufficient magnitude relative to the threshold value for detection by the detector such that the output signal of the detector is indicative of a detected fault.